

ACCESSION NR: AP4022908

5/0119/64/000/003/0029/0029

AUTHOR: Berman, N. R. (Engineer)

TITLE: Second All-Union Scientific and Technical Conference on Microconductors

and Resistors

SOURCE: Priborostroyeniye, no. 3, 1964, 29

TOPIC TAGS: microconductor, resistor, scientific and technical conference, resistance alloy, superfine wire, glass insulated superfine wire

ABSTRACT: The Second All-Union Scientific and Technical Conference on Microconductors and Resistors took place, October 22-24, 1963, in Kishinev. It was organized by the Central Board of NTO Priborprom, the MSSR Coordinating Committee on Scientific-Research Fork, and the Moldavian NTO Priborprom. The conference attracted 190 representatives of 70 organizations and institutes from 20 cities. The principal reports were: "Microconductors and resistors,"

Card, 1/2

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by Z. I. Zelikovskiy; "Microconductors from resistance alloys," by Ye. Ya. Badinter; and "Reliability of microconductor resistors," by V. P. Tsetens. A total of 57 reports was delivered on these topics; fine and superfine glass-insulated wire casting by Professor A. V. Ulitovskiy's method; development of resistors and resistance devices based on microconductors; microconductor production methods and equipment; horizontal-filament method for electrophysical investigation of microconductors; a-c resistors; resistance boxes and high-resistance bridges; development of semiautomatic microconductor winding machines, etc. The Conference has demonstrated that (1) microconductor devices are very important, and (2) the investigation of physical processes of casting has been insufficient to date. Orig. art. has: no figure, formula, or table.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: GE, IE

NO REF SOV: 000

OTHER: 000

Card 2/2

L 24053-66 ENT(1)/ENA(h)

ACC NR. AP6012705

SOURCE CODE: UR/0119/66/000/004/0027/0028

B

AUTHOR: Berman, N. R. (Engineer)

CONTRACTOR OF THE PROPERTY OF

ORG: none

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TITLE: Microconductors and resistors [Reports at the 3rd All-Union Conference on Microconductors and Resistors, 16-19 Nov65, Kishinev]

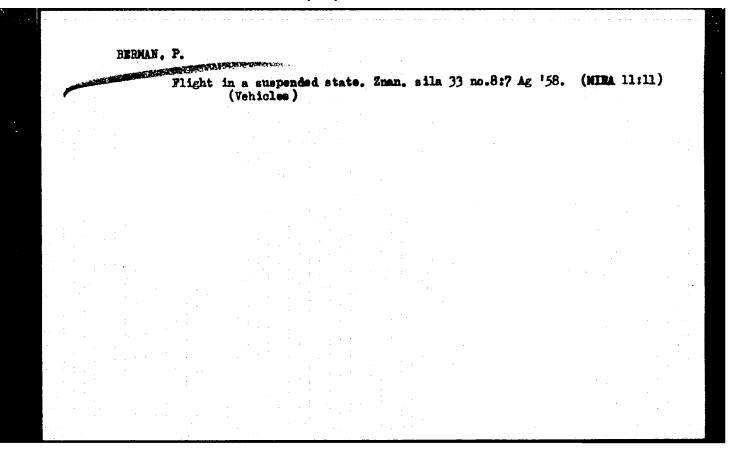
SOURCE: Priborostroyeniye, no. 4, 1966, 27-28

TOPIC TAGS: microconductor, microesistor, microelectronics, conductor, resistor

ABSTRACT: Proceedings at the Conference where 234 representatives of 93 organizations (of 24 cities) took place are briefly reported. After introductory remarks by

Z. I. Zelikovskiy, these reports were delivered: "Problems of automation of casting microconductors" by V. I. Zaborovskiy and L. P. Menchikov; "Principal studies of properties of cast microconductors" by Ye. Ya. Badinter; "Microconductor mechanics" by Y. S. Lenskiy; "Use of resistors from cast microconductor in instruments and electronic equipment" by Z. I. Zelikovskiy; "Peculiarities of and improvements in the industrial production of cast-microconductor resistors" by A. I. Savenkov and Yu. I. Avvakumov. Several reports were devoted to the Prof. A. V. Ulitorskiy method of casting microconductors in vitrious insulation. Other reports set forth the theory of microconductor casting developed by the Institute of Mathematics, AN MoldSSR and the Kishinev Scientific Research Electrotechnical Institute.

Card 1/1d SUB CODE: 09 / SUBM DATE: none



RERMAN, P.M.; DAVIDOVICH, P.Ya.

Take into account characteristics of the construction of pipelines in determining the annual standards of machine utilization. Stroi. truboprov. 10 no.9:36 S \*65. (MIRA 18:9)

1. Spetsial noye konstruktorskoye byuro "Gazstroymaskina" (for Berman). 2. Trest Soyuzprovodmekhanizatsiya (for Davidovich).

BERMAN, P.S. (Moskva)

Plant protein. Priroda 50 no. 3:98-100 Mr '61. (MIRA 14:2) (Proteins)

	Proteinless feeding of cows. Priroda 53 no. 11:70-71 '64. (MIRA 18:1)	
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Case of eventration in a true ombryonal hernia. Ped., akush. i gin.
19 no.3:63-64 \*57. (MIRA 13:1)

1. Khirurgicheskaya klinika kafedry khirurgii (ispolnyayushchiy obyazannosti zavkafedroy - dots. Z.M. Kantor) Kiyevskogo instituta usovershenstvovaniya vrachey (direktor - prof. I.I. Kal'chenko) na baze 1-y gorodskoy bol'nitsy Pecherskogo rayona g. Kiyeva.

(HERNIA)

ARONSON, V.Ye.; BALASHOV, Ye.T.; BERMAN, S.A.; BYZER, B.I.; KALININ, N.A.; MAKHONIN, A.K.; IMASHEV, N.U.; TOKAREV, V.P.

Plans for commercial prospecting for the Zhetybay and Uzen' deposits. Trudy VNICRI no.218:62-73 '63. (MIRA 17:3)

BERMAN, S.A.

Technical information service in the scientific research institute.

Trudy Bash NIINP no.5:298-306 '62. (MIRA 17:10)

FREMAN, Sh. A.

DEFMAN, Sh. A.: "The physiological preparations of young carp for their first winter." Min Higher Education USSR. Latvian State V. Biga, 1976. (Discortation for the Degree of Candidate in Biological Science.)

Knizhnaya letopis', No. 30, 1956. Moscow.

BERMAN, Sh. [Bermane, S.]

Antibiotics and feeding of ducklings. Vestis Latv ak no.8:115-120 '60. (EEAI 10:9)

(Ducks) (Antibiotics)

EERMANE, S., kand. biolog. nauk; SMITS, J., agronom; DIMDINS, J., red.; CAKSS, J., tekhn. red.

[Intensive carp and duck raising] Intensiva karpu un pilu audzesana. Riga, Latvijas Valsts izdevnieciba, 1961. 63 p. (MIRA 15:3)

(Latvia-Carp)

(Latvia-Ducks)

ē.

BERMANE, Sh. A-

Research on significance of antibiotics in the nourishment of carp. Vestis Latv ak no.3:151-154 '60. (KEAI 10:7)

Latvijas PSR Zinatnu akademija, Biologijas instituts.
 (Antibiotics) (Carp)

# BERMAN, S.A.

Equipment designed by the Bashkirian Scientific Research Institute for Petroleum Refining as shown at various industrial exhibitions. Trudy BashNII NP no.6:293-296 '63. (MIRA 17:5)

BERMAN, S. D.

PA 245T68

USSR/Mathematics - Finite Groups

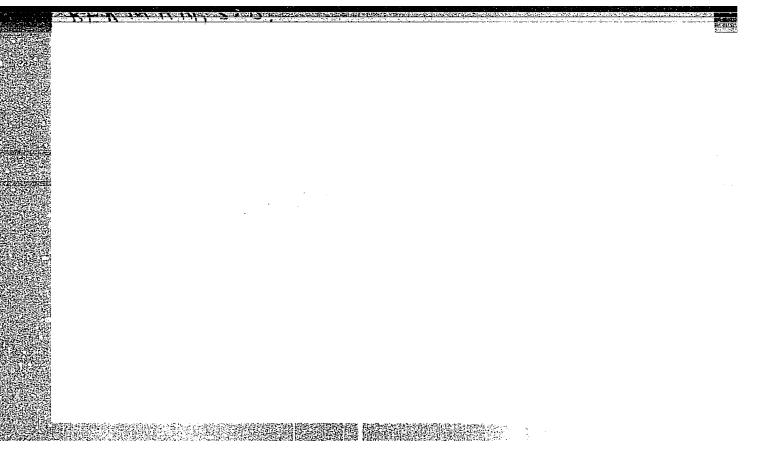
11 Oct 52

"Theory of Representations of Finite Groups," S. D. Berman

"Dok Ak Nauk SSSR" Vol 86, No 5, pp 885-888

Solves problem of number of irreducible representations of a finite group over an arbitrary field K whose character does not divide the order of the group or the power of its absolutely irreducible representations. Acknowledges advice of Ya. B. Lopatinskiy, Corr Mem, Acad Sci Ukrainian SSR, and I. R. Shafarevich, Doc Phys-Math Sci. Submitted by Acad O. Yu. Shmidt 9 Aug 52.

245168



BERMAN, S.D

Mathematical Reviews : Vol. 15 No. 2 February 1954 Algebra

Berman, S. D. On certain properties of integral group rings. Doklady Akad. Nauk SSSR (N.S.) 91, 7-9 (1953). (Russian)

The author studies the group algebra R, over the ring of rational integers, of a group G of finite order n. An element  $n \in R$  is called normal if  $uu^* = u^*u$  ( $u \rightarrow u^*$  being the canonical involution of R). An element  $u \in R$  such that  $u^t = \pm 1$  for some rational integer t > 0 is called a root of unity, and the smallest such t is called the order of u; the elements of  $\pm G$  are obviously normal roots of unity. Theorem 1. Every normal root of unity in R belongs to  $\pm G$ . Theorem 2. The order of a root of unity in R divides R. Theorem 3. R fails to contain a nilpotent element if and only if R is abelian or is hamiltonian of order  $2^m t$ , where R belongs to an odd exponent modulo R. Theorem 4. The following three conditions are equivalent. I. Every root of unity of R belongs to E than E is normal. III. E is abelian, or is hamiltonian of order power of 2.

E. R. Kolchin (New York, N. Y.).

BERMAN, S. D.

# USSR/Mathematics - Rings

11 Jul 53

"Isomorphism of the Centers of Group Rings of p-Groups," S. D. Berman, Uzhgorod State Univ

DAN SSSR, Vol 91, No 2, pp 185-187

Demonstrates the necessary and sufficient condition for the isomorphism of the centers of group rings R(G,K) (over a field K) of p-groups (p not 2). Uses here the concept of K-division of a group, introduced by the author (ibid. Vol 86, No 5 (1952)). States that the following problem is unsolved: Given group G and field K, find all groups

276169

H for which R(G,K) # R(H,K). States that S. Perlis and G. L. Walker (Trans Am Math Soc. 68, No 3, 420 (1950)) partially solved it. Acknowledges advice of Ya. B. Lopatinskiy, Corr-Mem Acad Sci Ukr SSR, and I. R. Shafarevich, Dr Phys-Math Sci. Presented by Academician O. Yu. Shmidt 21 Apr 53.

USSR/Mathematics - Abelian groups

Pub. 22 - 2/41Card

Berman, S. D. Authors

About expressions of the semi-direct product of Abelian groups Title

Dok. AN SSSR 98/2, 177-180, Sep 11, 1954 Periodical

Construction of a complete system of orthogonal minimal idempotents and of idempotents of a center is given. The construction is accom-Abstract plished on the base of a semi-direct product of Abelian groups. De-

finition of the semi-direct product is given. One reference (1947).

Institution : Uzhgorodskiy State University

Presented by: Academician P. S. Alexandroff, June 11, 1954

Equation x = 1 in an integer group-ring. Ukr.mat.shur. 7 ne.3:
253-261 '55.

(Groups, Theory of)

BERMAN S.D.

USSR/ Mathematics - Group algebras

Card 1/1

Pub. 22 - 2/62

Authors

Berman, S. D.

Title

1 Group algebras of the Abelian expansions of finite groups

Periodical : Dok. AN SSSR 102/3, 431 - 434, May 21, 1955

Abstract

3 A method is shown for the construction of a complete system of the minimum idempotents of a center and, assuming that G/H is cyclic, a complete system of orthogonal (in pairs) minimum idempotents of K(G,K), provided that such systems are known to the R(G,L) and R(H,K). The G is a finite group being assumingly an Abelian expansion of the group H; the K is an algebraically closed field the characteristics of which do not divide the crder of G: the R(G,K) and R(H,K) are the group algebras of the G and H groups over the field K, respectively. Five references: 2 U A and 3 ULLE (1937-1954).

Institution: The State University, Uzh-Gorod

Presented by: Academician P. S. Aleksandrov, Jan 20, 1955

BERMAN, S.D.

SUBJECT USSR/MATHEMATHICS/Algebra

CARD 1/1

PG-71

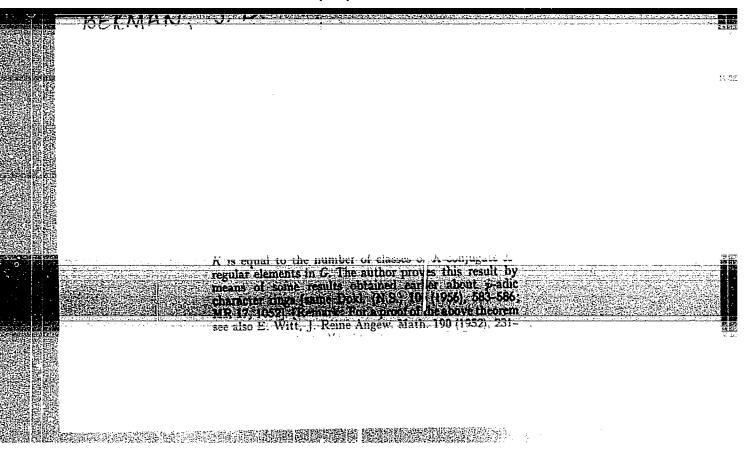
AUTHOR TITLE BERMAN S.D.

The p-adic ring of the characters.

PERIODICAL Doklady Akad. Nauk 106, 583-586 (1956)

reviewed 6/1956

The principal results of P.Roquette (J.reine angew. Math. 190, 148-168 (1952)) and R.Brauer (Ann.Math. Princeton, II.s. 48, 502-514 (1947)) on the ring of the absolute irreducible characters of a finite group are generalized by the author to the ring of characters which correspond to the irreducible representations in a given field K of the characteristic O. There the notion of the K-konjugate elements introduced by the author in an earlier paper (Doklady Akad. Nauk 86, 885-888 (1952)) plays an essential part.



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	BERMAN,	S.D.		
		Generalized cl	characters of finite groups. Dop. AN URSR no.2: (MLRA 10:5)	
		AN URSR B.V.	kiy dershavniy universitet. Predstaviv akademik Gnyedenko. (Groups, Theory of)	
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BERMAN,

21-6-2/22

AUTHOR:

Berman, S.D.

TITLE:

Groups of which All Representations are Monomial (Gruppy, vse

predstavleniya kotorykh monomial'ny)

PERIODICAL:

Dopovidi Akademii Nauk Ukrains'koi RSR, 1957, No 6, pp 539-

542 (USSR)

ABSTRACT:

The paper deals with a finite order group G and an algebraic closed field k whose characteristics does not divide the order

of G. Moreover, the following designations are used:

K is an arbitrary subfield of the field k; R (G, K) is the group algebra of the group G over the field K. The author determines necessary and sufficient conditions to be satisfied by the subgroup  $N\subseteq G$  whose linear character induces the irreducible representation of the group G over the field k. The number of irreducible monomial representations of the group G over the field k is determined, and conditions are found which are necessary and sufficient to make all representations of G over the field K monomial. Under assumption that G and H are groups whose all representations are monomial, the author defines the conditions of isomorphism of algebras R (G, k), R (H, k), R (G, K) and R (H, K) and the conditions of isomorphism of the centers of algebras R (G,K)

Card 1/2

Groups of which All Representations are Monomial

21-6-2/22

and R (H, K) where K is a field of positive characteristic.

There are 3 non-Slavic references.

ASSOCIATION:

Uzhgorod State University (Uzhhorods'kyy derzhavnyy universytet)

PRESENTED:

By B.V. Gnedenko (Hnyedenko), Member of the AN Ukrainian SSR

SUBMITTED:

15 February 1957

AVAILABLE: Library of Congress

Card 2/2

BERMAN, S. D. 42-5-5/17 BERMAN S.D., LYUBIMOV V.V. AUTHOR: Groups Admitting an Arbitrary Displacement of the Factors of Their Composition Series (Gruppy dopuskayashchiye lyubu; W. TITLE: perestanovku faktorov kompozitsionnogo ryada) PERIODICAL: Uspekhi Mat. Nauk, 1957, Vol. 12, Nr. 5, pp. 181-184 (USSR) Let G be a group with a composition series of the length s; let ABSTRACT: Γ1. Γ2. · · · · Γ Β be the factors of this composition series. G admits an arbitrary displacement of the factors of the composition series if to an arbitrary permutation \( \begin{pmatrix} 1 & 1 & 2 & 1 \\ 1 & 2 & 1 \end{pmatrix} \) of the factors (1) there corresponds a composition series  $G = G_1 \supset ..., \supset G_{s+1} = 1$  such that  $G_j/G_{j+1} \subseteq \Gamma_{i_j}$  (j=1,...,s). A group with a composition series all the factors of which are isomorphic to the same simple group [ Theorem: The group G with a composition series admits an arbitrary displacement of the factors of the composition series then and only then if it can be represented as a direct product of [ -groups. Card 1/2

Groups Admitting an Arbitrary Displacement of the Factors of 42-5-5/17
Their Composition Series

Let  $\mathcal{M}_{\pm} \left\{ \begin{array}{c} \Gamma_1, \dots, \Gamma_k \end{array} \right\}$  be a finite set of pairwise not isomorphic simple groups. A group with a composition series is called an  $\mathcal{M}_{-}$ group if the set of the different factors of the composition series is identical with  $\mathcal{M}_{-}$ .

Theorem: Let G be an  $\mathcal{M}_{-}$ group and let  $\mathcal{M}_{+}, \dots, \mathcal{M}_{k}$  be subsets

of  $\mathfrak{M}$  ( $\bigcup_{i=1}^{r} \mathfrak{M}_{r} = \mathfrak{M}$ ) being pairwise free of common elements.

The composition series of G admits an arbitrary displacement of the subsets  $\mathcal{M}_1, \ldots, \mathcal{M}_r$  then and only then if G is a direct product of the  $\mathcal{M}_i$ -groups  $(i=1,\ldots,r)$ .

One Soviet reference is quoted.

SUBMITTED: AVAILABLE:

October 15, 1956 Library of Congress

1. Groups (Mathematics)-Theory

Card 2/2

### BERMAN, S.D.

Representations of groups of the order 2<sup>m</sup> over an arbitrary field of zero characteristics [with summary in English]. Dop. AN URSR no.3:243-246 '58. (MIRA 11:5)

1. Ushgorodskiy dershavniy universitet. Predstavleno akademikom B.V. Gnedenko [B.V. Hniedenko].

(Groups, Theory of)

BERMAN, S.D.; BOVDI, A.A.

P-Block for a class of finite groups. Dop. AN URSR no.6:606-608 '58. (MIRA 11:9)

1.Ushgorodskiy gosudarstvennyy universitet. Predstavil akademik AN USSR B.V. Gnedenko [B.V. Hnedienko].
(Groups, Theory of)

AUTHOR:

Berman, S.D. (Uzhgored)

39-44-4-1/5

TITLES

Characters of Linear Representations of Finite Groups Over Arbitrary Fields (Kharaktery lineynykh predstavleniy konechnykh grupp nad proizvol'nym polem)

PERIODICAL:

Matematicheskiy Sbornik, 1958, Vol 44, Nr 4, pp 409-456 (USSR)

ABSTRACT:

The paper is a partial generalization of results formerly announced by the author [Ref 8,9,10] and contains the proofs for these results. Several new notions are defined. § 1. Let G be a finite group,  $K^1$  a field the characteristic of which does not divide the order of G. A one-to-one mapping  $\Upsilon$  of G onto G is called an S-mapping, if the function  $X_1(\Upsilon(g))$ , where  $X_1(g)$  (i=1,...s) is an arbitrary character, is an absolutely irreducible character. The class of the S-mapping

solutely irreducible character. The class of the S-mapping consists of such one-to-one mappings which transfer the classes of conjugate elements into each other and thereby induce an automorphism of the algebra of these classes. Let  $\phi$  be a group of the S-mappings of G. As a  $\phi$  -character of G the sum of the different characters is denoted which are obtained from the absolutely irreducible character X by the effect of

Card1/3

Characters of Linear Representations of Finite Groups

all transformations from  $\phi$  . For the  $\phi$  -characters relations are given which generalize the classical relations between absolutely irreducible characters. The elements

c (a)c act the part of the classes of conjugate elements, where & EG is fixed, o runs hrough the group G and Y through the subgroup  $\phi$ . If G is a normal subgroup of F and if  $\phi$  is generated by the group of the inner automorphisms of F, then the O-characters of G are identical with the relative characters of G with regard to F; see Frobenius [Ref 3] . With the aid of the  $\phi$ -characters the isomorphism of the centers of group algebra is investigated. § 2. Let the characteristic of K' be zero. The characters of the linear representations of G over K' are denoted as K'-characters. Integer linear combinations of irreducible K'-characters are called generalized K'-characters. E G is called a K'-elementary subgroup, if !.) E is a semidirect product of the cyclic normal subgroup H = (a) of order h on the p-group F (p,h) = 1 2.) for each geF it is g ag = a , where p is an integer so that the mapping  $\mathcal{E} \to \mathcal{E}^{\mu}$  defines an automorphism of the

field  $K^{\mathfrak{g}}(\mathcal{E})$  over  $K^{\mathfrak{g}}$  (it is  $\mathcal{E}=\sqrt[m]{1}$  , where m is the order of G). The two theorems of Brauer on induced representations are

Card 2/3

Characters of Linear Representations of Finite Groups

39-44-4-1/5

generalized, e.g.; Each irreducible K'-character of G can be represented as an intager linear combination of K'-characters which are induced by the irreducible K'-characters of the K'elementary subgroups of G. It is shown that an integer ring of characters of a finite group cannot be decomposed into a direct ideal sum. The paper contains 45 theorems and lemmata, as well as a great number of definitions. The author thanks for several critical remarks of Ya.B. Lopatinskiy and I.R. Stafarevich. There are 19 references, 7 of which are Soviet, 5 German, 1 Japanese, 3 English, and 3 American.

SUBMITTED:

October 17, 1956

Card 3/3

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BERMAN, S.D.

Modular representations of finite supersolvable groups. Dop.AN URSR no.5:586-589 '60. (MIRA 13:7)

1. Uzhgorodskiy gosudarstvennyy universitet. Predstavleno akademikom AN USSR B.V.Gnedenko [B.V.Hniedenko]. (Groups, Theory of)

Scientific notes and problems on Schur's index. Usp. mat. nauk 16 no.2:95-99 Mr-Ap '61. (MIRA 14:5)

(Numbers, Theory of)

BERMAN, S.D.

Smallest field, in which all representations of an odd P-group are realised. Usp.mat.nauk 16 no.3:151-153 My-Je '61.

(MIRA 14:8)

(Fields, Algebraic) (Groups, Theory of)

BERMAN, S.D., dotsent; GUDIVOK, P.M.

Integral representations of finite groups. Dokl. i soob. UzhGU. Ser. fiz.-mat. i ist. nauk no.5:74-76 '62. (MIRA 17:9)

SHAPIRO, A.P.; BERMAN, S.D., dotsent

Classes of conjugate elements of cyclic extensions of finite groups. Dokl. i soob. UzhGU. Ser. fiz.-mat. i ist. nauk no.5:76 '62. (MIRA 17:9)

# BERMAN, S.D.; GUDIVOK, P.M.

Integral representations of finite groups. Dokl.AN SSSR 145 no.6:1199-1201 Ag 162. (MIRA 15:8)

1. Yahgorodskiy gosudarstvennyy universitet. Predstavleno akademikom P.S.Novikovym. (Groups, Theory of)

### BERMAN, S.D.

Integral representations of finite groups. Dokl. AN SSSR. 152 no.6:1286-1287 0 '63. (MIRA 16:11)

1. Uzhgorodskiy gosudarstvennyy universitet. Predstavleno akademikom P.S. Novikovym.

BERMAN, S.D.; GUDIVOK, P.M.

Indecomposable representations of finite groups over a ring of integral p-adic numbers. Izv. AN SSSR. Ser. mat. 28 no. 4:875-910 Jl-Ag '64. (MIRA 17:9)

CIA-RDP86-00513R000205010015-7" APPROVED FOR RELEASE: 06/08/2000

#### BERMAN, S.D.

Theory of integral representations of finite groups. Dokl.
AN SSSR 157 no.3:506-508 Jl '64. (MIRA 17:7)

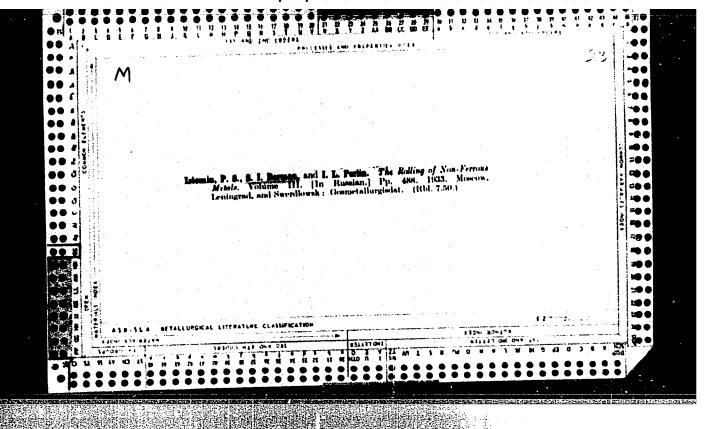
1. Uzhgorodskiy gosudarstvennyy universitet. Predstavleno akademikom L.S. Pontryaginym.

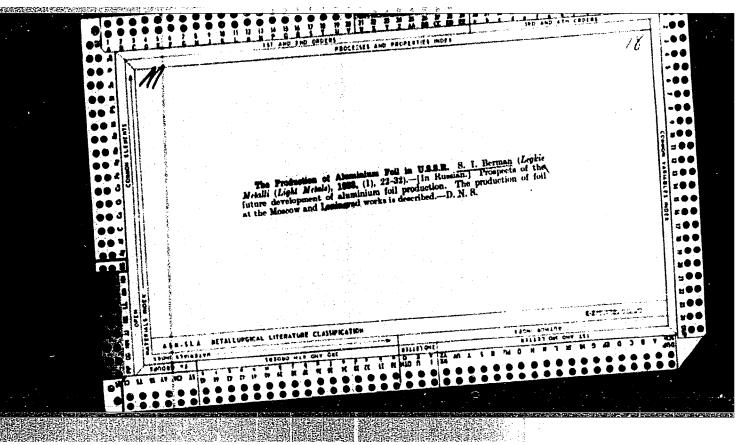
BERMAN, S.D.

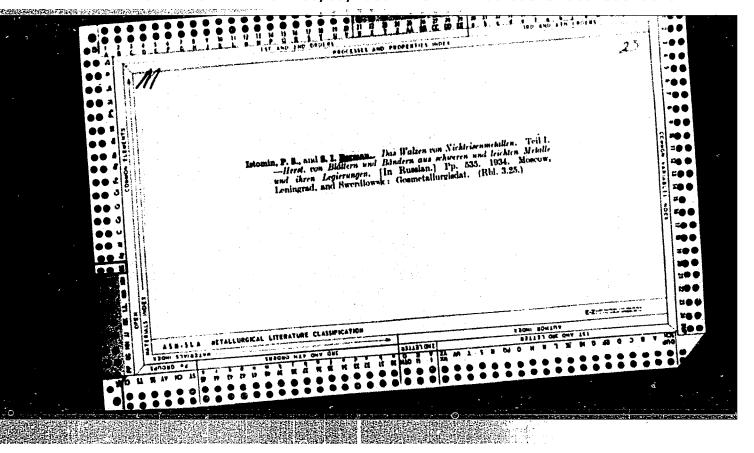
Integrel monomial representations of finite groups. Usp. mat. nauk. 20 no.4:133-134 SL-1g '65. (MIRA 18:8)

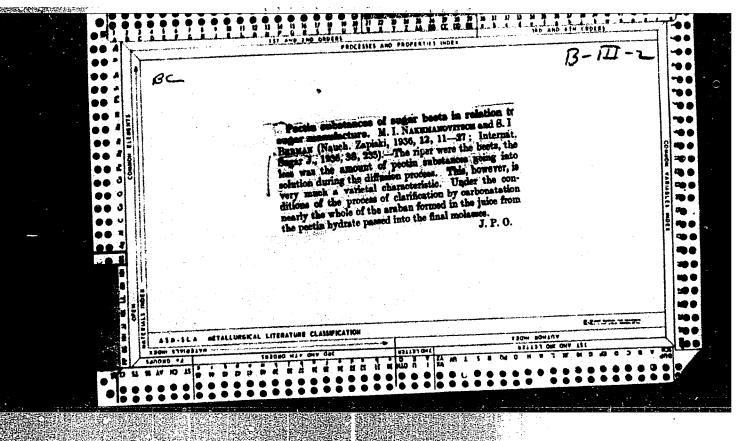
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Berman, Samuil Izraylevich	BHI
Beryllium copper alloys, their properties, uses splavy, ikh svoystva, primeneniye i obrabotka) 0343 p. illus., biblio. Errata slip inserted.	2,390 copies printed.
TOPIC TAGS: beryllium containing alloy, copper metalworking, nonferrous metal alloy, metal cast metal physical property, metal stamping	cing, metal allowed
PURPOSE AND COVERAGE: This book presents inform beryllium alloys and on their applications in the of preliminary and complex casting, rolling, for finished pieces are described. Power requirement, these alloys are given. Information on stamping soldering, welding, thermal treatment, and surfaces presented. The book is intended for engineers research institutes, factory laboratories, consumetallurgical factories, of the apparatus const other industries. The book may be of use to tree.	rging, pressing, and drawing of semi- nts necessary for pressure forming of g, cutting on metal-working machines, ace finishing of these alloys is also end technicians working in scientific truction bureaus, and in shops of cruction, of electrotechnical, and of
schools specializing in metallurgical sciences, of metals.	In casting, and in process
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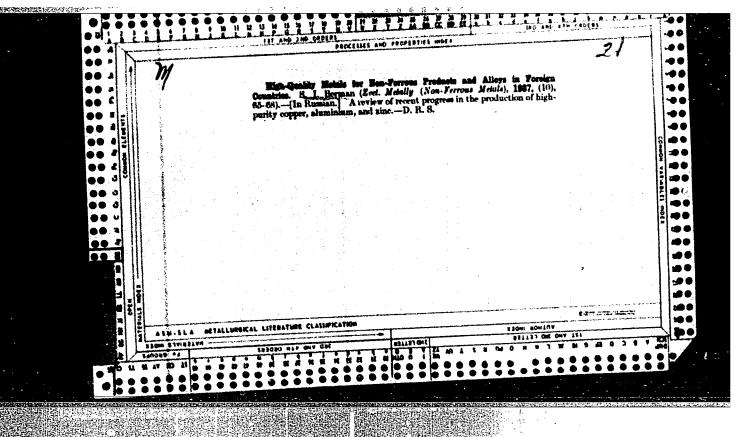
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Ch. VII. Man Ch. VIII. For Ch. IX. Sold Ch. X. Mecha Ch. XI. Safe Bibliography	facture of t ging and sta gring and wel nical process ty in working 335	thin rods, wemping of colding 326 sing 326 g with copper	vire, and propper-beryll 21 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	ium alloys 33	308 1			
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137-58-5-10046

Continuous Sequence Anneal (cont.)

after HF A. The microstructure of longitudinal and cross sections of the wire was uniform, grain size being 10-12 microns. Continuous sequence heating of brass and Cu rods was performed on an equipment for case-hardening of rolls, with a 2000-kc current. Tubes were A in a pilot-plant setup, the generator of of which produced a 2650-cps current. A roller conveyor with driven rollers was adapted to transport the tubes through the I. The experiments showed that HF anneal necessitates heating the tubes to a higher temperature than that required in ordinary A in resistance furnaces. Thus, the heating of L62 brass is to 650-760°C, while for Ni it is 850-950°. Oxidation of the surface and loss of metal in HF annealing of brass and Ni tubing is negligible.

A.B.

1. High frequency heating--Applications 2. Metals--Heat treatment

Card 2/2

Matrosova, N. S., Balakireva, Ye. P., SOV/64-58-4-15/20

AUTHORS: Berman, S. I.

Thermochemical Gas Analyzer of the Type TKhG-5 (Termokhimicheskiy

gazoanalizator tipa TKhG-5) TITLE:

Khimicheskaya promyshlennost', 1958, Nr 4, pp. 253 - 254 (USSR)

PERIODICAL:

Thermochemical gas analyzers are produced in two types: in the one type the combustion takes place on a platinum wire which at ABSTRACT: the same time serves as thermocouple, in the other type a laminated catalyst is employed as well as a thermometer for measuring the heat effect. The second method has a few advantages so that an analyzer of this type, called TKhG - 5, was worked out by the OKBA (Experimental Construction Bureau for Automation). Platinum chloride on an aluminum oxide carrier was used as catalyst. The following apparatus were built among the further modifications: TKhG-5A with a scale 0 - 2% H2 for the analysis of hydrogen in

electrolytic oxygen, TKhG -5B with a scale of 0 - 1% 02 for the analysis of oxygen in electrolytic hydrogen, and TKhG-5 V with scales 0 - 0,5% 0, and 0 - 1% 0, for the analysis of oxygen in generator gas. The error limit of the instrument is given as

Card 1/2

Thermochemical Gas Analyzer of the Type TKhG-5 SOV/64-58-4-15/20

3%; the authors give a diagram of this instrument and of the electric circuit with a corresponding description. The principle of measurement is based on the fact that an exothermal reaction is formed by the component of the gas mixture to be analysed, the heat formed being proportional to the amount of substance; the measurements are all carried out automatically. On the basis of the mentioned construction instruments can be produced for the analysis of hydrogen in a sample of industrial gases as well as of CO<sub>2</sub>,SO<sub>2</sub>,NH<sub>3</sub>,CH<sub>4</sub> in the air, etc. There are 2 figures.

ASSOCIATION:

Opytno-konstruktorskoye byuro avtomatiki (Experimental Construction Bureau for Automation)

1. Gas analyzers--Performance 2. Gas analyzers--Equipment

Card 2/2

SOV/136-58-11-13/21

AUTHORS:

Dontsov, S.N. Berman, S.I.

TITLE:

Strength Characteristics of Titanium Alloy with 5% Aluminium Under Hot Pressing Conditions (Prochnostnyye

kharakteristiki splava titana s 5% alyuminiya v usloviyakh obrabotki davleniyem v goryachem sostoyanii)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 11, pp 71-77 (USSR)

ABSTRACT:

A binary alloy of titanium with 5% aluminium has found application in Soviet industry and the work described has been carried out with the object of determining the mechanical properties and degree of permissible deformation at high temperatures and rates of deformation, including the true yield-point strength, the rate coefficients and the mean specific pressures

produced during rolling in smooth rolls at high temperatures and various degrees of deformation. 90 x 220 x 330 mm forgings containing 0.11% Fe, 0.07% Si, 0.03% C, 0.02% 02, 0.04% N and 0.015% H2 were cut into 14 x 14 x 330 mm blanks from which Suitable

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507/136-58-11-13/21

Strength Characteristics of Titanium Alloy with 5% Aluminium Under Hot Pressing Conditions

test pieces were made. The speeds of deformation used corresponded to those of Soviet rolling practice. A series of resistance strain gauges were used (fig.1) for following the tensile test, the specimen being contained in a furnace. Maxima of relative-deformation in tension and compression and of toughness and minima in tension and compression and of toughness and minima were found (fig.2) at 1000-1150 and 900-950 C respectively. True yield-point strengths were determined at 800-1150 C and deformation rates of 0.33, 280, 560, 740 and 1120% per second from tensile test results, the relations obtained (fig.4) confirming that the degree of deformation must be taken into account when studying the effect of deformation rate on the true yield-point strength at such temperatures. The rate coefficients were taken as the ratio of the yield-point strength at the higher rates to that at 0.33% per second for the given temperature and degree of deformation (values tabulated on p.75). A two-high laboratory rolling mill with strain gauges was used to find the total force between metal and rolls, from

Card 2/4

SOV/136-58-11-13/21

Strength Characteristics of Titanium Alloy with 5% Aluminium Under Hot Pressing Conditions

which the mean specific pressures for various temperatures (700-1100°C) and degrees of deformation per pass were calculated (fig.5). These experimental specific-pressure values obtained were compared with those calculated by A.I. Tselikov's equations (ref.12) from the true yield-points strength allowing for the rate and degree of deformation: the latter differed by 10-15% from the experimental. Tselikov's equation was also used to construct graphs of the coefficient of friction in rolling the alloy at various degrees of deformation (15-50%) as functions of the

Card 3/4

SOV/136-58-11-13/21

Strength Characteristics of Titanium Alloy with 5% Aluminium Under Hot Pressing Conditions

temperature (fig.6): the values of the coefficient varied from 0.085 to 0.36. There are 6 figures; 1 table and 12 references of which 7 are Soviet and 5 English.

ASSOCIATION: Mintsvetmetzoloto

Card 4/4

DONTSOV, S.N.; BERMAN, S.I.

l. Moskovskiy institut tsvetnykh metallov i zolota, Kafedra obrabotki metallov davleniyem.

(Titanium-aluminum-vanadium alloys) (Deformations (Mechanics))

## s/180/60/000/01/008/027 E071/E135

Berman, S.I. (Moscow) AUTHOR:

Card

1/2

The Diagram of Recrystallization of Berrylium Bronze PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh

nauk, Metalurgiya i toplivo, 1960, Nr 1, pp 64-69 (USSR)

ABSTRACT: The object of this work was to study the process of recrystallization of berrylium bronze and construction of

recrystallization diagrams which are necessary for correct selection of conditions for heat treatment after cold working by pressure. Specimens, in the form of flat semis 20 x 40 x 120 mm, were cut out of an ingot of the following composition: 2.32% Be, 0.33% Ni, 0.02% Fe, 0.003% Pb, remainder copper. The specimens were heated to 800 ± 10 °C, soaked at this temperature for 6 hours and then hardened in water. They were then cold rolled with reduction of 4, 15, 30, 45, 54, 59, 63, 67 and 71%. After rolling, each specimen was cut in parts which were divided into groups and the corresponding groups were heated to one of the following temperatures: 500, 600,

700, 775, 800, 825 and 850 °C, and soaked at each temperature for one of the following periods: 30, 60

and 90 minutes, after which they were hardened in water.

S/149/60/000/005/015/015 A006/A001

AUTHOR:

Berman, S.I.

TITLE

The Conference on Mechanization and Automation of Non-Ferrous

Metal Processing

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,

1960, No. 5, pp. 153-154

From December 8 to 12, 1959, an All-Union scientific-technical Conference was held at Artemovsk on mechanization, automation and introduction of new techniques at plants for the processing of non-ferrous metals. The Conference heard a series of reports by representatives from: Giprotsvetmetobrabotka, on basic trends in the organization of technological processes of casting shops; the Revda plant, on casting methods including vacuum absorption for casting non-ferrous alloy round blanks; the Kol'chugino plant on jetless casting of lead-phosphorous ingots and on semi-automatic temperature control of molten metal in induction furnaces; the Krasnoyarsk Institute of Non-Ferrous Metals on melting and casting of beryllium-bronze large-size ingots under a vacuum into a water-cooled mold; representatives from various other plants, designing offices and institutes

Card 1/3

S/149/60/000/005/015/015 A006/A001

The Conference on Mechanization and Automation of Non-Ferrous Metal rocessing

reported on automation of hot and cold rolling mills, hydraulic presses, flame mex furnaces; continuous measurement of the temperature of cold rolling stands; ultrasenic control of press draw; automatic control and measurement of rolled strip thickness; commercial-frequency current induction heating of round ingots; butt welding of strips into heavy weight rells; high-speed electrolytic etching; conversion of labor-consuming zinc sheet production to highly efficient rolling process by the roll method; hydraulic metal pressing by high-pressure liquids. The Kamensk-Uralskiy Plant, the Artemovsk Plant and the Institute of Electric Welding imeni Faton reported on automatic hardfacing and reconditioning of tools for the pressing of non-ferrous metals and of easily worn out parts. The Conference stated a number of deficiencies in the fulfillment of the tasks set up by the XXI KPSS Congress, stressing, in particular, the lack of coordination in planning and conducting mechanization, automaticn and introduction of new techniques. This deficiency will be improved by the organization of a coordination council at the plants of non-ferrous metal processing. A series of recommendations were submitted including the organization of special courses for mathematical statistics applied to the industry; the use of vacuum arc and high-frequency melting in the manufacture of semi-finished articles, introduction of annealing Card 2/3

\$/149/60/000/005/015/015 A006/A001

The Conference on Mechanization and Automation of Non-Ferrous Metal Processing

in a vacuum under shielding gas; the <u>Krasnoyarsk Institute</u> of Non-Ferrous Metals was charged to invertigate the use of mills with reelers in the furnaces for non-ferrous metal rolling. The Conference approved investigations carried out by <u>VNIITmetmash</u> in the field of hydraulic pressing and recommended the further development of this process; the <u>Giprotsvetmetobrabetka Institute</u> and several plants were charged to investigate annealing of pipes in induction heaters and contact annealing of wire of various alloys.

Card 3/3

8/137/62/000/005/062/150 A006/A101

18.1215

AUTHOR:

Berman, S. I.

TITLE:

Temperature changes of a beryllium-bronze strip in flat hot rolling

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, abstract 5D26 ("Sb. nauchn. tr. In-t tsvetn. met. im. M. I. Kalinina", 1960,

v. 33, 318-323)

The value of coefficient k, which takes into account heat losses TEXT: from 1 m<sup>2</sup> strip surface per 1 sec in kcal, was experimentally determined. The determination was made during hot rolling of grade Ep. B 2 (Br. B2) Be-bronze ingots on a two-high reversing mill with rolls 610 mm in diameter and 910 mm barrel length; the peripheral speed of the rolls was 0.765 m/sec. There were devices mounted on the mill for the recording on oscillographic paper of full metal pressure on the rolls arising during rolling as well as the number of roll revolutions, the duration of time intervals and passes. The temperature was measured with a photo-electric pyrometer. The data obtained made it possible to calculate the value of coefficient k for each pass and to determine mean values of k for different temperatures. These data were used to plot a curve

Temperature changes of a beryllium-bronze ... S/137/62/000/005/062/150 A006/A101.

showing changes in the magnitude of coefficient k as a function of temperature. With the use of this curve the hot rolling process of large-size vacuum-melted Be-bronze ingots on the aforementioned machine was developed. The dimensions of the ingots were 55/65 x 240/258 x 510 mm and 70/90 x 205/215 x 625 mm; the ingot weight was 60 and 98 kg respectively.

K. Ursova

[Abstracter's note: Complete translation]

80521 S/136/60/000/06/017/026 E091/E435

AUTHOR:

Berman, S.I.

TITLE :

Low-Temperature Annealing of Beryllium Bronze

PERIODICAL:

18,2100

Tsvetnyye metally,  $1960^{23}_{N}$ Nr 6, pp 74-80 (USSR)

ABSTRACT:

In the manufacture of long strip and ribbon of beryllium bronze which are coiled in rolls, quenching is difficult and for heating prior to quenching a battery of furnaces of special design is required. ten years ago, the author found that quenching as an intermediate operation in the cold working of beryllium bronze by pressure can be substituted by low-temperature annealing. Fig 1 shows the influence of temperature and duration of heating on the grain size of beryllium bronze strip produced by cold rolling with a reduction of 54%. The average grain area of the cold worked strip was found to be 134  $\mu^2$ . On heating a specimen of this strip at 500°C for 1.5 hours, the average grain area had increased to 188  $\mu^2$ . To determine the influence of lengthy annealing at 530 to 570°C on the mechanical properties of cold worked strip of beryllium bronze with different Be contents, the following work was carried out. Specimens for mechanical testing were made from two

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80521 \$/136/60/000/06/017/026 E091/E435

Low-Temperature Annealing of Beryllium Bronze

strips. One strip, 1.7 mm thick, made from an alloy containing 2.4% Be and 0.3% Ni, was cold rolled with a total reduction of 39%; the other strip, 5 mm thick, made from an alloy containing 1.97% Re and 0.46% Ni, was cold rolled with a total reduction of 50%. The specimens were placed in an electric laboratory furnace provided with an automatically recording temperature regulator. The temperature variations in the furnace did not exceed  $\pm$  10 $^{\circ}$ C. The specimens were soaked for between 45 minutes and 8 hours at 550 + 10°C. The mechanical properties, obtained by varying the duration of annealing, are shown in Table 1. For comparison, the mechanical properties of the strip, heated at 770 + 10°C for 15 minutes and water quenched, are shown in the same table. The author has found that cold worked beryllium bronze softens sufficiently for further deformation by cold working when annealed for 5 to 7 hours at 550 + 10°C. Intermediate low-temperature annealing does not lower the mechanical properties of finished strip, which is subsequently subjected to quenching and tempering for toughening. BrB2 bronze strip made by using

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80521 \$/136/60/000/06/017/026 E091/E435

Low-Temperature Annealing of Beryllium Bronze

intermediate low-temperature annealing possess excellent mechanical properties after quenching and tempering. Strip and ribbon of 2.5, 1.25, 0.78 and 0.48 mm thickness were subjected to various heat treatments and specimens were cut from them for mechanical testing in the direction of rolling and at right angles to it. Fig 2 shows the results are shown in Table 2. microstructure of specimens cut from BrB2 beryllium bronze strip subjected to various heat treatments. Fig 3 shows the microstructure of finished quenched Fig 4 is a microsection of BrB2.5 Be-bronze strip. a cast Be bronze specimen containing 2.35% Be and 0.25% Ni; the specimen was heated at 800°C for one hour and shows a segregation of the  $\beta$ -phase. The authors arrive at the following conclusions: (1) Quenching, used as an intermediate step in cold working Be bronze by pressure, can be replaced by annealing at temperatures below those at which the β-phase transforms. (2) After low-temperature annealing, Be bronze has practically the same UTS, a lower

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80521 \$/136/60/000/06/017/026 E091/E435

Low-Temperature Annealing of Beryllium Bronze

elongation and a greater hardness than quenched Be bronze. The annealed material has the same plasticity as the quenched one. (3) Low-temperature annealing can only be applied as an intermediate step. Before being tempered for toughening, semi-finished articles and parts made by pressure cold working with intermediate low-temperature annealing must be subjected to heating to 770 to 790°C and water quenching. (4) Intermediate low-temperature tempering does not lower the mechanical properties of Be bronze subjected to quenching or toughening-tempering. (5) On cold rolling, the quenched, as well as the annealed, material develops anisotropic mechanical properties. The difference in mechanical properties of strip along and across the rolling direction decreases noticeably after quenching cold rolled material and does not exceed that which is permissible for materials intended for deep drawing. (6) A linear distribution of  $\alpha + \beta'$  phase mixtures is observed in microsections of specimens cut from cold relled strip along and across the direction of rolling, regardless of whether the material prior to rolling had

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80521 S/136/60/000/06/017/026 E091/E435

Low-Temperature Annealing of Beryllium Bronze

been quenched or annealed. (7) Semi-finished low-temperature annealed articles and parts of BrB2.5 Be bronze must be heated prior to quenching for a longer time than those of BrB2 bronze. (8) The advantage of low-temperature annealing prior to quenching, applied as an intermediate step, is that it can be carried out in vacuum and a finer grain size can be obtained. There are 4 figures, 2 tables and 5 references, of which are Soviet, 1 French and 1 English.

Card 5/5

S/180/61/000/006/001/020 E193/E383

AUTHORS:

Berman, S.I. and Perlin, I.L.

TITLE:

Scientific and technical problems of plastic-working

of nonferrous metals by the operations of the

squeezing group

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo,

no: 6, 1961, 3 - 7

Rapid expansion of the national economy envisaged in TEXT: the new programme of the Communist Party of the Soviet Union will necessitate a corresponding increase in the production capacity of the nonferrous metal-working industry and in the range of the materials produced. This, in turn, will necessitate the introduction of new techniques, agglomeration of various fabricating processes and their intensification attained mainly by widerapplication of electrical heating and by increasing the speed of deformation. Some of the problems created by these developments and means of their solution are discussed briefly in the present paper. Card 1/5

Scientific and technical ....

S/180/61/000/006/001/020 E193/E383

- 1) It is suggested first that the quantity of rolling stock produced can be increased by incorporating the melting, casting and rolling operations in one continuous line. This system is at present applied on a small scale in the production of aluminium foil and wire, and work is in progress on the development of a similar process for the production of copper-wire and rod. The main difficulty in applying this process to melting two-phase alloys is their tendency to segregate during casting, as a result of which, lengthy homogenizing treatment, difficult to incorporate in a continuous line, is necessary. In this connection, it would be desirable to search for alloying additions and/or methods of casting which would ensure homogeneity of the billets.
- 2) The output of tubes could be increased by changeover from extruded to seam (straight or helical) welded tubes fabricated by a continuous process. The results of tentative investigations have shown that this technique could be successfully employed on an industrial scale for fabricating copper, brass, nickel, aluminium, duralumin and other nonferrous-metal tubes. However,

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Scientific and technical ....

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before this technique can be usefully adopted, problems will have to be solved of producing consistently high-quality welds which will possess practically the same mechanical properties and corrosion-resistance as the material outside the weld. A reliable method of continuous testing of the quality of the welded seam would have to be developed.

- 3) The efficiency of extrusion processes could be increased by reducing the percentage of waste material; this could be attained by extruding without the formation of extrusion discards, by increasing the extrusion speeds and by the application of extrusion techniques similar to those used in cable-sheathing.
- 3) It would seem desirable to explore the possibilities of using ultrahigh pressures in extrusion, wire-drawing, rolling and forging processes. In addition to other benefits, solution of this problem would bring about an increase in the strength of the finished product and a corresponding reduction in the quantity of metal consumed.

Card 3/5

S/180/61/000/006/001/020 E193/E383

Scientific and technical ....

The difficulties associated with the shortage of some metals can be overcome by wider application of clad materials. In this connection, there is a need for development of new methods of thermal and mechanical treatment which would ensure the formation of a high-strength bond between the core and the cladding materials.

- 5) High priority should be given to research and development work on powder-metallurgy techniques, particularly as applied to dispersion-hardened materials.
- 6) Friction between the tool and the fabricated metal is an important aspect of all metal-working processes. A search should be instigated for more efficient and cheaper lubricants and more attention hould be paid to the problem of pressurefeeding the lubricant into the deformation region.
- 7) More attention should be paid to process-control and inspection at every production stage. Work should continue on the development of reliable and accurate testing methods and the statistical of process control should be more widely used.

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Scientific and technical ....

S/180/61/000/006/001/020 E193/E383

8) There is an urgent need to develop the theory of plastic working of complex shapes or difficult materials (titanium. tantalum, niobium, germanium, uranium, thorium, beryllium, etc.).

9) Since the number of nonferrous semi-fabricated and finished articles of different shapes and sizes, made by plastic-working processes, exceeds 20 000 positions, more attention should be paid to specialization of new plants whose location should be chosen in a less haphazard manner.

Card 5/5

18.8200

39795 \$/032/62/028/008/008/014 B104/B102

AUTHORS:

Kachaynik, O. I., and Berman, S. I.

TITLE:

Determination of the plastic yield atress at high temperatures applying high rates of deformation

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 8, 1962, 971 - 975

TEXT: Specimens of titanium alloyed with Al, V and No were tested in a tensile testing machine at stretching rates of 222, 520 and 1400 mm/sec. The deformation rates were 556, 1300 and 3500 %/sec. The force acting on the samples was measured with a pressure cell and electric strain gages. During the experiment the samples were subjected to temperatures of 600, 700, 800, 900, 1000, 1100 and 1150°C inside a tubular furnace. Elongation was measured by strain gages and contraction photoelectrically. A specimen was stretched at a rate of 222 mm/sec after annealing at 1000 C for 10 min; its failure occurred after 0.9 sec and the elongation was 50%. There are 4 figures and 1 table.

Oard 1/2

S/032/62/028/008/008/014
Determination of the plastic yield ... B104/B102
ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

Card 2/2

## BERMAN, S.I.

New protective coatings for the manufacture of mirrors. Leh.prom. no.1:39-40 Ja-Mr '63. (MIRA 16:4)

1. Kiyevskiy zavod "MITOS".

15(2) AUTHORS:

Antosyak, V. G., Berman, Sh. M.,

8/131/60/000/01/008/017 B015/B001

Ploshchenko, Ye. A.

TITLE:

The Durability of the Refractory Walling of 500-t Martin

Furnaces

PERIODICAL:

Ogneupory, 1960, Nr 1, pp 24 - 30 (USSR)

ABSTRACT:

In this paper, the authors describe the stability of 500-t Martin furnaces on account of concluded campaigns. The following furnace parts and their lining and durability, expressed in the number of melts, are given: the main- and head crown of the furnace (see Table); the front and the back furnace wall; the lining of the gas caissons (Fig 1); the lining of the lid of the charging window; the crowns of the slag containers and regenerators (Fig 2); the checkerworks of gas- and air generators (Figs 3, 4, 5, and 6); the checkerworks of regenerators of a Martin furnace with oil heating; the lining of smoke valves and channels. To sum up, the authors mention that the stability of the main crowns of 500-t Martin furnaces is insufficient. The stability has to be increased by the use of refractory highly compact magnesite

Card 1/2

The Durability of the Refractory Walling of 500-t Martin Furnaces

s/131/60/000/01/008/017 B015/B001

chromite and periclase spinellide products. The pillars of the front furnace wall show the least durability. A material of higher durability has to be found for their linings and a method of repairing these linings has to be worked out during the operation of the furnace. The upper brick rows of the checkerworks last for one furnace campaign, the lower rows can work through the next campaign after having been cleaned. The impenetrability of fire channels and valves has to be increased. There are 6 figures and 1 table.

Card 2/2

S/131/60/000/009/001/008/XX B021/B052

AUTHORS:

Berman, Sh. M., and Revzina, F. S.

TITLE:

Production and Testing of High-density Magnesite-Chromite

Products for Furnace Crowns

PERIODICAL: Ogneupory, 1960, No. 9, pp. 397-400

TEXT: This work was conducted at UNIIO (Ukrainskiy nauchno-issledovatel'-skiy institut ogneuporov - Ukrainian Scientific Research Institute of Refractory Materials) under the guidance of A. S. Frenkel'. Among other things, the relation between the density of magnesite-chromite products and their stability has been studied. High-density products for furnace crowns have been produced by the test plant of UNIIO. The chromite contained 54.30% Cr<sub>2</sub>O<sub>3</sub>, 13.60 Fe<sub>2</sub>O<sub>3</sub>, and 15.77% MgO, and the powdered magnesite contained 91.63% MgO. The bricks were baked between 1580° and 1600°C. Their temperature of deformation was between 1570° and 1630°C under a pressure of 2 kg/cm<sup>2</sup>. The average wear of magnesite-chromite

Production and Testing of High-density Magnesite-Chromite Products for Furnace Crowns

S/131/60/000/009/001/008/XX B021/B052

bricks was 21% higher than that of the normal product of the Chasov Yar Combine. Figs. 1 and 2, and Table 4 show the changes of their properties and their chemical and mineralogical compositions after use in openhearth furnaces. Tests have demonstrated the dependability of high-density products for crowns, guaranteeing an increase in their stability by 20 - 25% even at standard baking temperatures. The best results were obtained with bricks containing 20% of chromite. There are 2 figures, 4 tables, and 5 Soviet references.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukrainian Scientific Research Institute of Refractory

Card 2/2

"APPROVED FOR RELEASE: 06/08/2000

HERMAN, Sh.M.; YAM'SHINA, M.P.; SHAPOVALOV, V.S.; Prinimali uchastiye:
KOVAL'CHUK, Ye.I.; PLOSHRNKO, Ye.A.; POPOV, G.I.; SHKAPIN, V.G.;
ANTOWOV, G.I.; KOVTUN, A.M.

Service conditions and processes of the wear of basic refractories in the bulkheads of open-hearth furnace front walls. Sbor.nauch. trud. UNIIO no.5:181-201 '61. (MIRA 15:12)

1. Ukrainskiy nauchno-issledovatel skiy institut ogneuporov (for Antonov, Kovtun).

(Open-hearth furnaces—Design and construction)

(Firebrick-Testing)

ANTONOV, G.I., inzh.; BERMAN, SH.M., inzh.

Efficient design of regenerator checkerwork. Stal: 21 no.5:413-414 My '61. (MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov. (Open-hearth furnaces--Design and construction)

BERMAN, Sh.M.; YAN SHINA, A.P.; ANTONOV, G.I.; PLOSHCHENKO, Ye.A.; SHAKHOV, N.A.; MOVLYAVA, A.P.

Testing non-fired forsterite brick in the checkered brickwork of air regenerators of 500-ton open-hearth furnaces. Ogneupory 26 no.6:272-273 '61. (MIRA 14:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (for Berman, Yan'shina, Antonov). 2. Alchevskiy metallurgicheskiy zavod (for Ploshchenko, Shakhov, Movlyava).

(Forsterite) (Open-hearth furnaces)

ANTONOV, G.I.; HERMAN, Sh.M.; PLOSHCHENKO, Ye.A.; DRYAPIK, Ye.P.; SHAKHOV, N.A.; NAYDEK, V.L.

Gas flow distribution in regenerators of 500-ton open-hearth furnaces. Stal! 22 no.4:306-309 Ap '62. (MIRA 15:5) (Open-hearth furnaces) (Gas flow)

ANTONOV, G.I.; BERMAN, Sh.M.: KOSOGOLOV, V.V.; SHEYKO, I.I.; KAL'NOY, Ye.L.; NHALEMSKIY, S.F.

Present state and prospects for the development of refractory linings in foundry open-hearth furnaces. Lit. proizv. no.6: 19-21 Je \*63. (MIRA 16:7)

(Open-hearth furnaces-Design and construction) (Refractory materials)

ANTONOV, G.I.; BABENISHEV, M.A.; BERMAN, Sh.M.; SHAPOVALOV, E.V.

Useful life of the checkerwork in 600-ton open-hearth furnaces. Met. i gornorud. prom. no.3:32-34 My-Je 163. (MIRA 17:1)

ANTONOV, G.I.; BERMAN, Sh.M.

Service life of refractories during intensified steel production in open-hearth furnaces. Stal' 24 no.1:25-27

[MIRA 17:2]

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

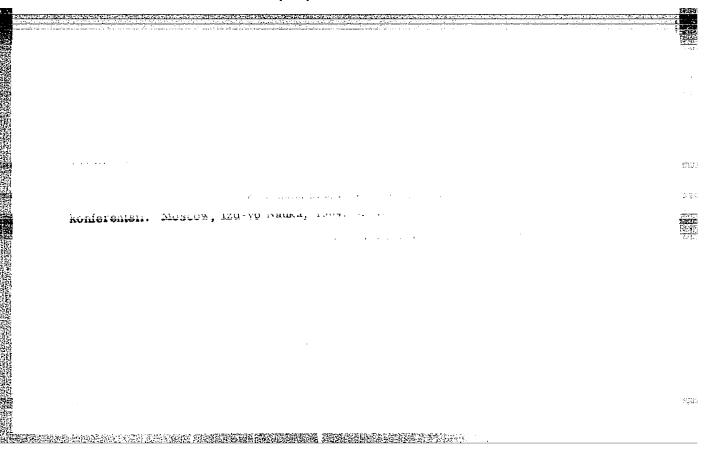
ANTONOV, G.I., insh.; BERMAN, Sh.M., insh.

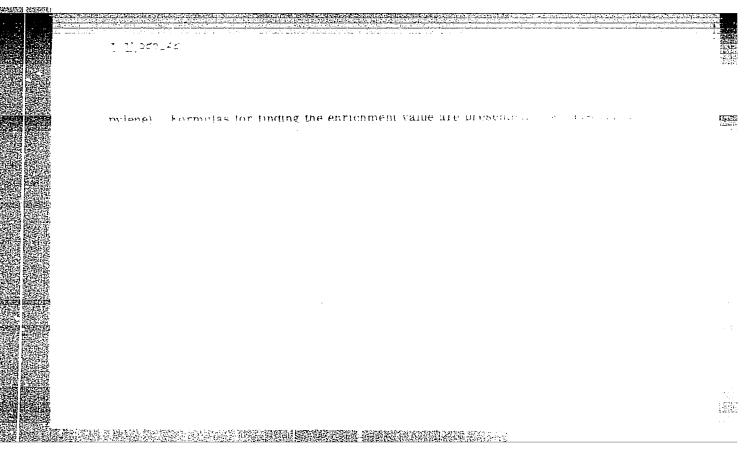
Selecting an efficient type of refractory material for lining open-hearth furnace regererators. Stal\* 24 no.10:893-895 0 164. (MIRA 17:12)

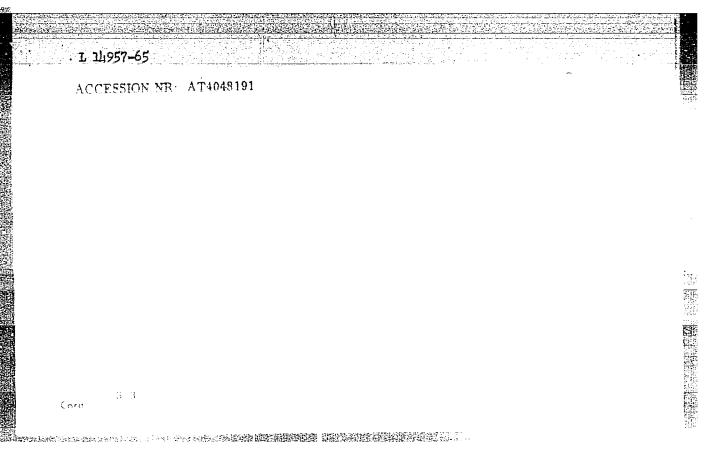
1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

	J. 09261-67 NOT(e)/AJT(n) VII SOUNCE CODE: UR/0413/66/000/015/0166/0166	1
	INVENTORS: Frenkel', A. S.; Antonov, G. I.; Berman, Sh. M.; Shapovalov, V. S.; Minkovich, B. D.; Revzina, F. S.	
	ORG: none	
Ť	TITLE: A method for producing basic refractory products. Class 80, No. 184693  /announced by Ukrainian Scientific Research Institute of Refractories (Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov)/	
	SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 166	-
	TOPIC TAGS: refractory product, refractory compound, powder metal, powder metallurgy, magnesium compound	•
	ABSTRACT: This Author Certificate presents a method for producing basic refractory products from pressed powder containing magnesite by forming this powder. To produce a consistently uniform volume of the products, melted materials such as magnesite, spinels, and forsterite are introduced into the pressing powder. Their amount is 30-70% of the pressed powder by weight. The products may be fired in an exidizing medium at a temperature of 1750-1800C.	
	SUB CODE: /5/// SUBM DATE: 22Jun6h  Cord 1/1  UDC: 666.763.002.2	_

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BERMAN, S.V., starshiy laborant

Rhinocytoscopic observations in influenza A2. Trudy Kaf. proped. vnutr. bol. LPMI no.3:88-94 '64. (MIRA 19:1)

BERMAN, S. Ya.

"Characteristics of Dysentery Microorganisms of the Flexner Group Isolated in 1941-1949 in the Town of Baku." Cand Med Sci, Inst for the Advanced Training of Physicians; Baku Inst of Epidemiology and Eicrobiology, Saku, 1953. (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

#### BERMAN, S. YA.

"On the Contemporary Laboratory Diagnosis of enteric Infections," a report given at the first republic scientifis-practical conference of physician-bacteriologists of the Scientific Research Institute of Epidemiology, Microbiology, and Hygienfof the Minstry of Health Azerbaydzhan SSSR held in Baku, 25 Apr 56.

SUM: 1360 p. 239

MEDZHIDOV, B.F.; BERMAH, S.Ya.

Results of studying intestinal infections in the Azerbaijan S.S.R. Zhur.mikrobiol.spid. i immun. 30 no.5:136 My 159. (MIRA 12:9)

1. Iz Instituta epidemiologii, mikrobiologii i gigiyeny Kinisterstva zdravockhraneniya Azerbaydzhanskoy SSR. (INTESTINES--DISEASES)